

In re Application of: Haim NIV  
Serial No.: 10/748,822  
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Examiner: Matthew M. BARKER  
Group Art Unit: 3662  
Attorney Docket: 37473

**In the Claims:**

1. (Currently Amended) A method of terrain mapping and/or obstacle detection for aircraft, comprising:

(a) transmitting a non-scanning beam that illuminates the terrain and/or obstacles;

(b) receiving a Doppler shifted signal that is Doppler frequency shifted by an amount dependent on an angle between a line of flight of the aircraft and scatterers that reflect the transmitted beam;

(c) determining the angle from the Doppler frequency;

(d) determining the range of at least some of said scatterers; and

(e) determining the azimuth and elevation of the scatterers,

wherein a backscatter Doppler signal from a terrain cell or object, located on the opposite side of the aircraft's line of flight from a range cell or object of interest and falls within the same range cell and same Doppler filter is suppressed by a null, common to both sum and difference patterns of an antenna receiving said Doppler shifted signal.

2. (Original) A method according to claim 1 wherein determining the azimuth and angle comprises:

determining one of azimuth and elevation of the scatterers by direction finding;  
and

calculating the other of the azimuth and elevation from the angle and determined azimuth and elevation.

3. (Original) A method according to claim 2 wherein determining the azimuth or elevation comprises determining using an off-axis monopulse azimuth estimation scheme.

4. (Withdrawn) A method according to claim 2 wherein determining the azimuth or elevation comprises determining using interferometry.